

2000-377047

[Name of the Document] Patent Application

[Reference No.] 4276182

[Date] December 12, 2000

[Addressed to] Commissioner of the  
Patent Office

[International Classification] H04N 1/00

[Title of the Invention] IMAGE COMMUNICATION APPARATUS AND  
CONTOROL METHOD THEREOF

[Number of the Claims] 11

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[Indication of Official Fee]

[Prepayment Ledger No.] 009634

[Amount] ¥21000

[List of Filed Materials]

[Material] Specification 1

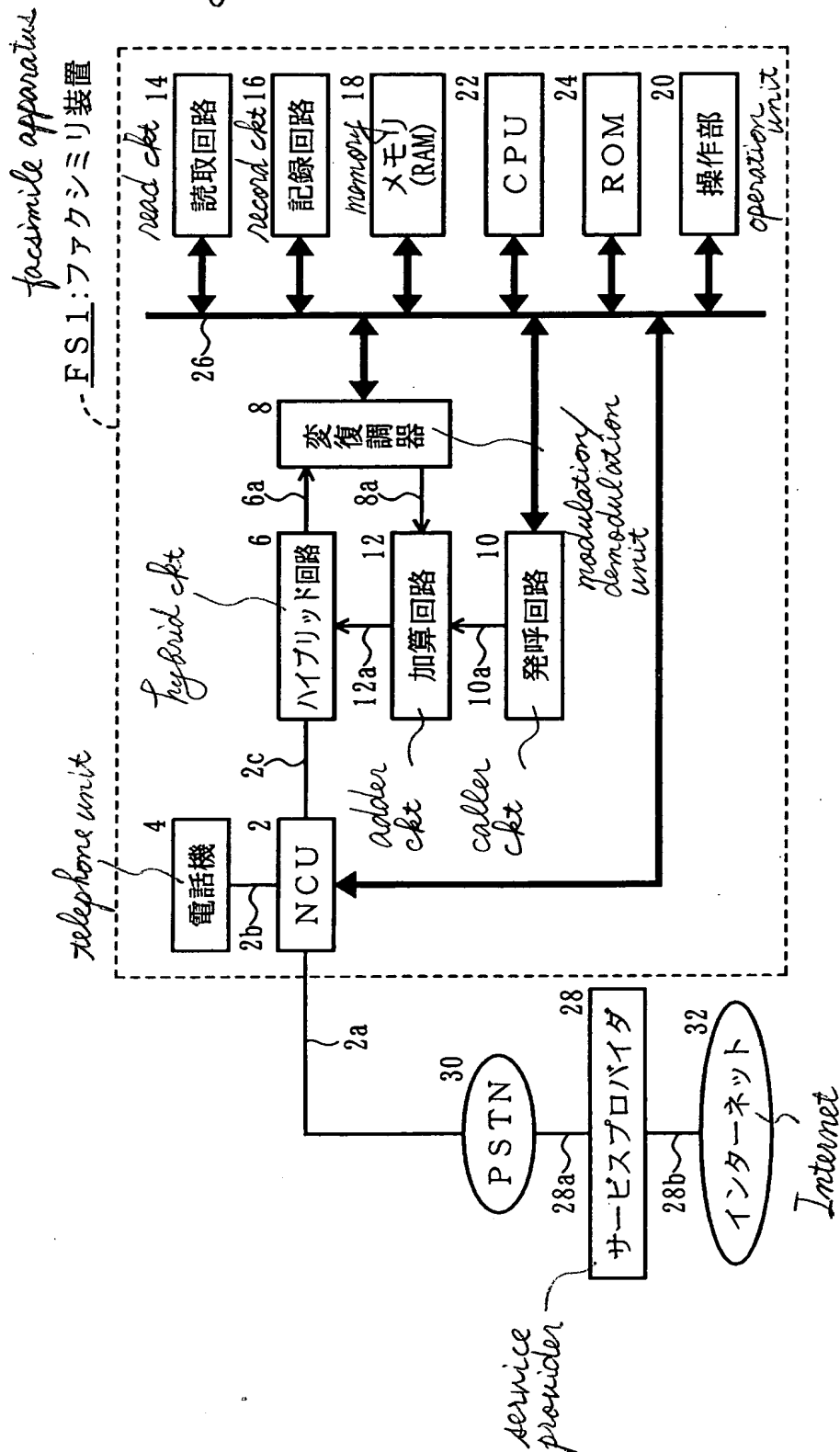
[Material] Drawings 1

[Material] Abstract 1

[Proof requirement] necessary

【書類名】 図面 [Document Title] Drawings

【図1】 [Fig. 1]



【図2】[Fig. 2]

example of "received e-mail address", "forwarding destination" and "object to be forwarded" registered in correspondence to memory box number  
メモリボックスナンバーに対応して登録されている

「受信するEメールアドレス」、「転送先」、「転送する内容」の例

memory box number	received e-mail address	forwarding destination	object
メモリボックスナンバー	受信するEメールアドレス	転送先	内容
01	aaa@bbb.〇〇.co.jp	ggg@hhh.〇〇.co.jp	本文
02	ccc@ddd.〇〇.co.jp	iii@jjj.〇〇.co.jp	本文、添付
03	eee@fff.〇〇.co.jp	kkk@lll.〇〇.co.jp	添付
04	mmm@nnn.〇〇.co.jp	ooo@ppp.〇〇.co.jp	本文
		qqq@rrr.〇〇.co.jp	本文、添付

[Fig. 3]

【図3】 example of "received e-mail address", "forwarding destination" and "sender terminal" registered in correspondence to memory box number

(1) メモリボックスナンバーに対応して登録されている

「受信するEメールアドレス」、「転送先」、「送信端末」の例

memory box number	received e-mail address	forwarding destination	sender terminal
メモリボックスナンバー	受信するEメールアドレス	転送先	送信端末
01	aaa@bbb.〇〇.co.jp	eee@fff.〇〇.co.jp	モバイルでない
02	ccc@ddd.〇〇.co.jp	ggg@hhh.〇〇.co.jp	モバイルである

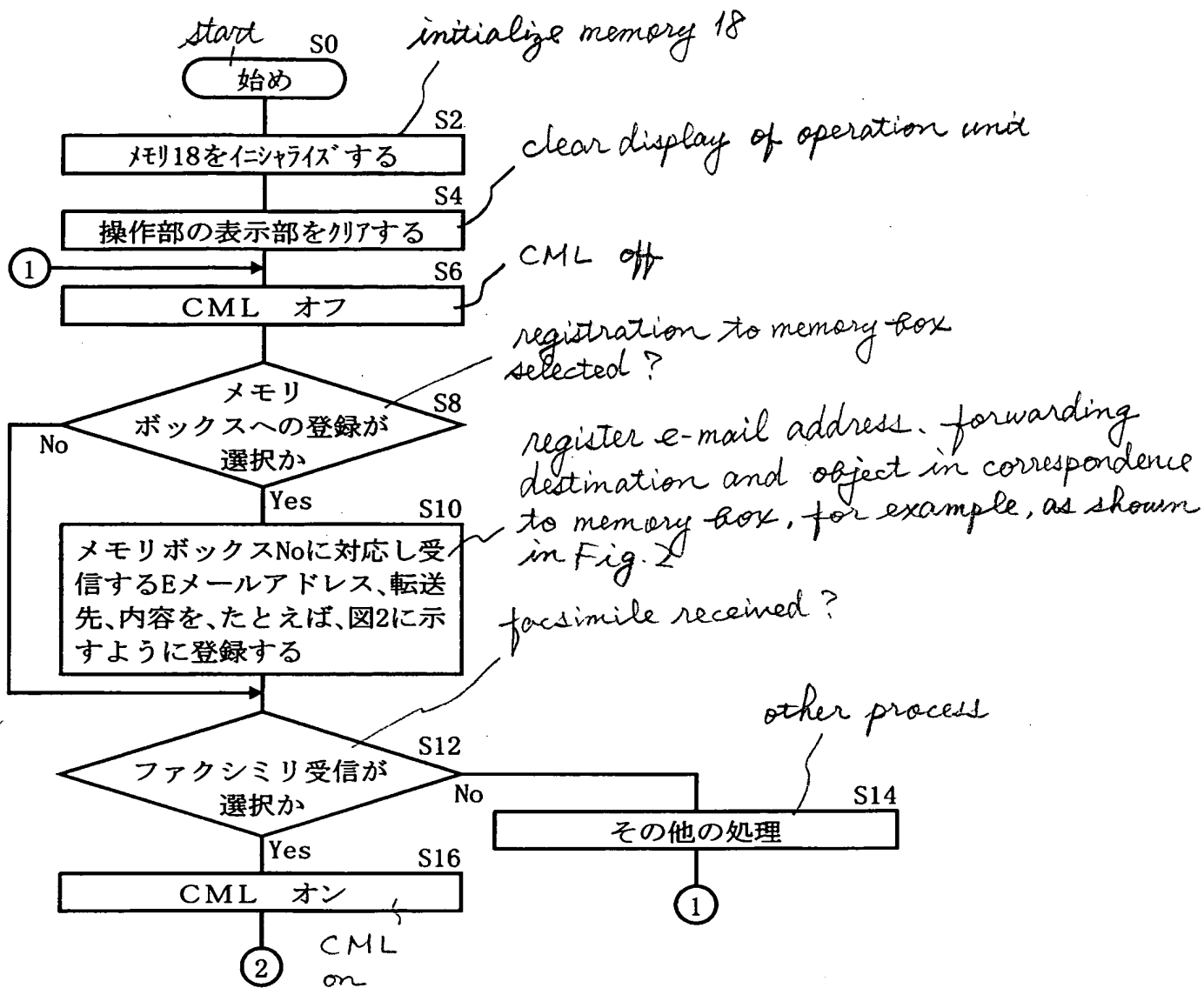
example of object to be sent registered in correspondence to sender terminal

(2) 送信端末の内容に対応して登録されている送信内容の例

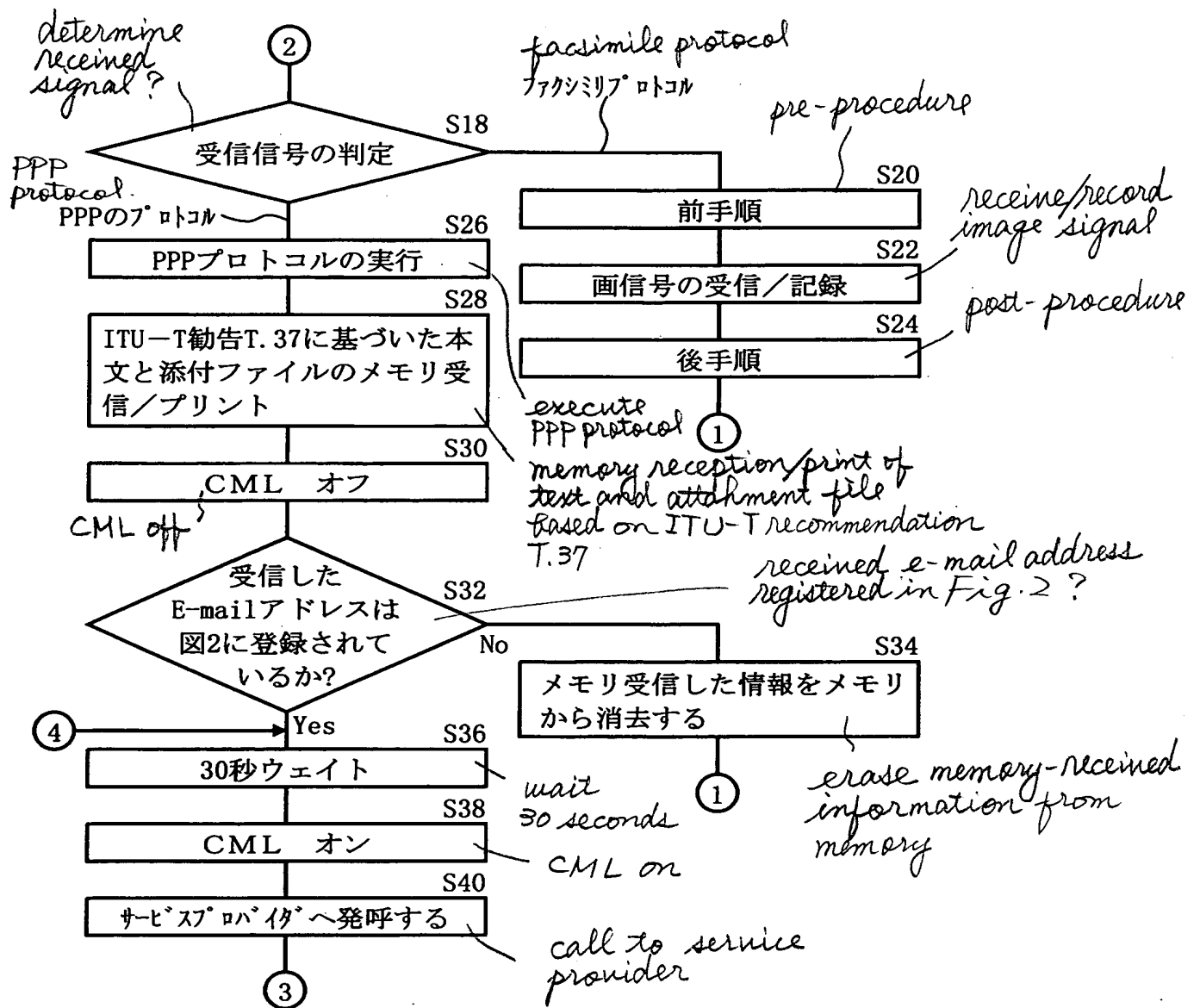
sender terminal	object to be sent
送信端末	送信内容
mobile	モバイルである
not mobile	モバイルでない

本文  
本文、添付ファイル

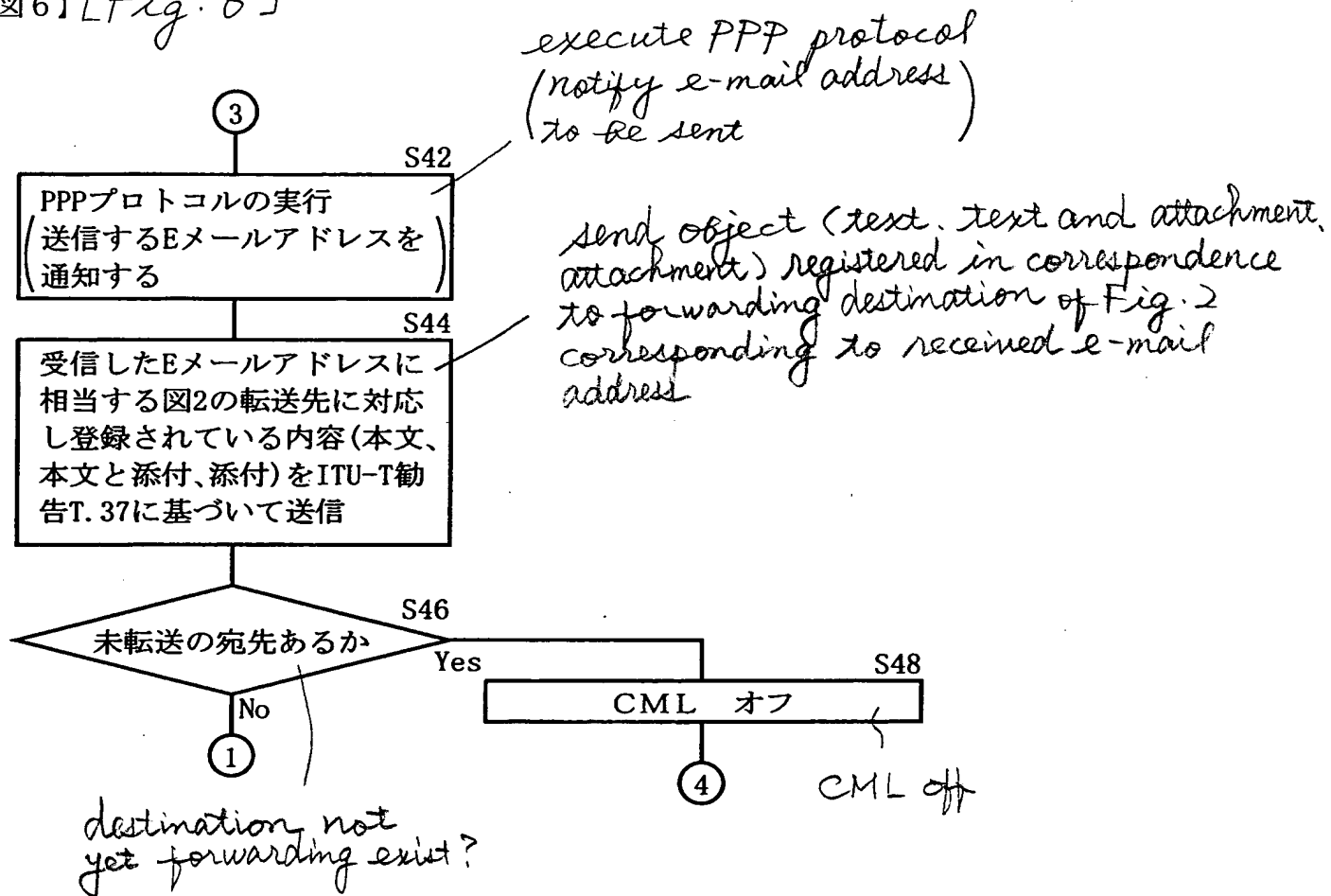
【図4】[Fig. 4]



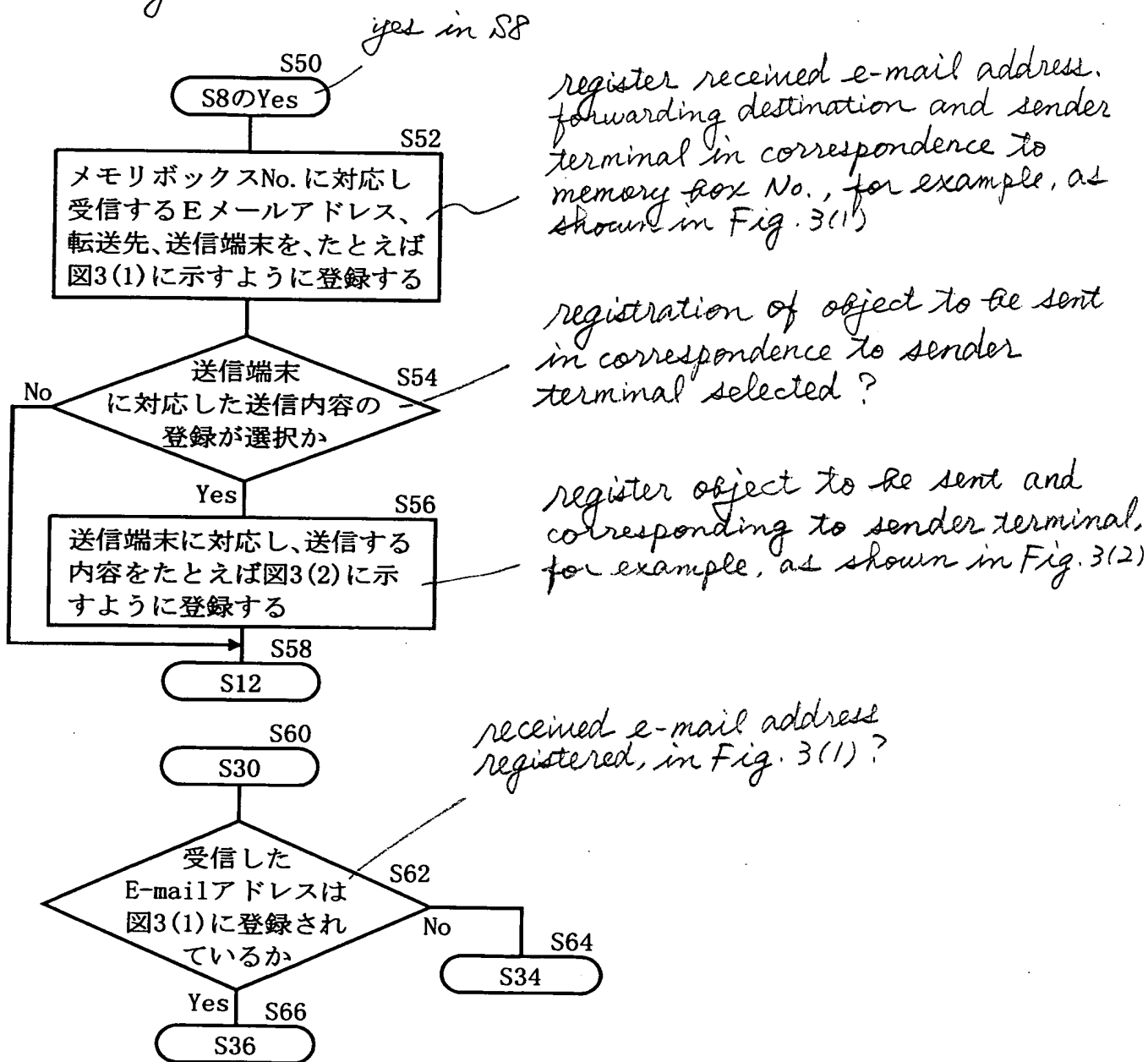
【図5】[Fig. 5]



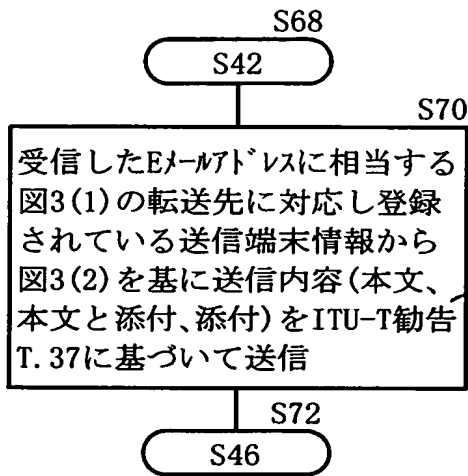
【図6】[Fig. 6]



【図7】[Fig. 7]



【図8】 [Fig. 8]



send object to be sent (text,  
text and attachment, attachment)  
based on Fig. 3(2) from sender  
terminal information registered  
in correspondence to forwarding  
destination of Fig. 3(1) corresponding  
to received e-mail address



[Document Title]] SPECIFICATION

2000-377047

[Title of the Invention]

IMAGE COMMUNICATION APPARATUS AND CONTROL METHOD  
THEREOF

5

[Claims]

1. An image communication apparatus capable of  
executing facsimile communication through the Internet,  
said apparatus comprising:

10 registration means for registering a received  
electronic mail address and a process to be next executed,  
in correspondence with a memory box; and

information change means for changing, when setting  
forward to a specific destination, the received information  
15 and transmitting the changed information to the specific  
destination as the process to be next executed, in  
accordance with a predetermined condition.

2. An image communication apparatus according to  
20 Claim 1, wherein, when the received information is changed  
and transmitted to the specific destination, it is possible  
to select one of transmission of only a text, transmission  
of only an attached file, and transmission of a text and  
an attached file.

25

3. An image communication apparatus according to  
Claim 1 or 2, further comprising means for registering

plural destinations as destinations to which the received information is transmitted, in correspondence with the memory box,

wherein, when the received information is transmitted  
5 to the plural destinations, the content to be transmitted can be changed among the transmission of only the text, the transmission of only the attached file, and the transmission of the text and the attached file.

10 4. An image communication apparatus according to Claim 1 or 2, further comprising setting means for setting whether or not the transmission destination is a mobile terminal,

wherein, when the received information is transmitted,  
15 the content to be transmitted can be changed among the transmission of only the text, the transmission of only the attached file, and the transmission of the text and the attached file, according to whether or not the transmission destination is mobile information.

20 5. An image communication apparatus according to Claim 4, further comprising registration means for registering that the information to be transmitted is which of the transmission of only the text, the transmission  
25 of only the attached file, and the transmission of the text and the attached file, according to whether or not the transmission destination is the mobile terminal,

wherein any one of the transmission of only the text,  
the transmission of only the attached file, and the  
transmission of the text and the attached file is determined  
as the transmitted to the next destination, based on the  
5 registered information.

6. An image communication apparatus according to  
any one of Claims 1 to 5, wherein the image communication  
apparatus is a facsimile apparatus.  
10

7. A control method for an image communication  
apparatus capable of executing facsimile communication  
through the Internet, said method comprising:  
a registration step of registering a received  
15 electronic mail address and a process to be next executed,  
in correspondence with a memory box; and  
an information change step of changing, when setting  
forward to a specific destination, the received information  
and transmitting the changed information to the specific  
20 destination as the process to be next executed, in  
accordance with a predetermined condition.

8. A control method according to Claim 7, wherein,  
when the received information is changed and transmitted  
25 to the specific destination, it is possible to select  
one of transmission of only a text, transmission of only  
an attached file, and transmission of a text and an attached

file.

9. A control method according to Claim 7 or 8, further comprising a step of registering plural destinations as  
5 destinations to which the received information is transmitted, in correspondence with the memory box,

wherein, when the received information is transmitted to the plural destinations, the content to be transmitted can be changed among the transmission of only the text,  
10 the transmission of only the attached file, and the transmission of the text and the attached file.

10. A control method according to Claim 7 or 8, further comprising a setting step of setting whether or  
15 not the transmission destination is a mobile terminal,

wherein, when the received information is transmitted, the content to be transmitted can be changed among the transmission of only the text, the transmission of only the attached file, and the transmission of the text and  
20 the attached file, according to whether or not the transmission destination is mobile information.

11. An image communication apparatus according to Claim 10, further comprising a registration step of  
25 registering that the information to be transmitted is which of the transmission of only the text, the transmission of only the attached file, and the transmission of the

text and the attached file, according to whether or not the transmission destination is the mobile terminal, wherein any one of the transmission of only the text, the transmission of only the attached file, and the  
5 transmission of the text and the attached file is determined as the transmitted to the next destination, based on the registered information.

[Detailed Description of the Invention]

10 [0001]

[Field of the Industrial Application]

The present invention relates to an image communication apparatus such as a facsimile apparatus or the like. In particular, the present invention relates  
15 to an image communication apparatus such as a facsimile apparatus or the like capable of executing facsimile communication through the Internet, and the control method thereof.

[0002]

20 [Prior Art]

A conventional facsimile apparatus mainly executes facsimile communication between terminals through a PSTN.

[0003]

At that time, when the facsimile-received information  
25 is forwarded to a next destination, such an operation is controlled by using a sub address signal.

[0004]

That is, at the reception terminal, it is previously registered that the received information is transmitted to the destinations of, for example, a telephone number A and a telephone number B in correspondence with the  
5 received sub address signal (for example, the sub address signal of 1234). Then, when the facsimile reception is selected and the sub address signal of 1234 is received, such information is memory received and recorded.

[0005]

10 Then, after the communication ends, the destination A is called, the memory-received information is transmitted, and the destination B is called, and the memory-received information is transmitted. That is, the received information is transmitted to all the registered  
15 destinations.

[0006]

[Problems to be Solved by the Invention]

In the above prior art, when the communication is executed between the facsimile apparatuses, it is desirable  
20 to transmit all the received information when executing relay broadcasting to plural destinations.

[0007]

Incidentally, facsimile communication via the Internet was recommended by the ITU-T T. 37 recommendation,  
25 so that it became also possible to execute the facsimile communication between facsimile apparatuses via the Internet. Moreover, it is possible to execute the

facsimile communication from the facsimile apparatus to a portable terminal.

[0008]

However, in the above prior art, when the received  
5 information is forwarded or relay broadcasted, if the destination is a portable terminal or the like through the Internet, there occurs a problem that communication fee becomes expensive if all the received information is communicated. In addition, there occurs a problem  
10 that the information cannot fully received by the portable terminal.

[0009]

These problems also occur in an image communication apparatus other than a personal computer, a facsimile  
15 apparatus or the like having an image communication function.

[0010]

An object of the present invention is to provide an image communication apparatus which can, even if a  
20 communication partner is a portable terminal or the like through the Internet, suppress communication costs and by which a partner's portable terminal can receive data even when the received information is forwarded or relay broadcasted, and the control method thereof.

25 [0011]

[Means and Operations for Solving the Problems]

The present invention is directed to an image

communication apparatus capable of executing facsimile  
communication through the Internet, the apparatus  
comprising: registration means for registering a received  
electronic mail address and a process to be next executed,  
5 in correspondence with a memory box; and an information  
change means for changing, when setting forward to a  
specific destination, the received information and  
transmitting the changed information to the specific  
destination as the process to be next executed, in  
10 accordance with a predetermined condition.

[0012]

[Embodiments]

[First Embodiment]

Fig. 1 is a block diagram showing a facsimile apparatus  
15 FS 1 according to a first embodiment of the present  
invention.

[0013]

In the facsimile apparatus FS 1, for the sake of  
using a telephone network for data communication and so  
20 on, an NCU (network control unit) 2 connects its line  
to a terminal to perform connection control of a telephone  
exchange network, perform a switch to a data communication  
line and maintain a loop. In addition, the NCU 2 connects  
the telephone line 2a to a telephone unit (CML off) and  
25 to the facsimile apparatus (CML on) under control of the  
bus 26. Moreover, the telephone line 2a is connected  
to the telephone unit 4 in a normal state.



[0014]

A hybrid circuit 6 separates transmission system signals from reception system signals, and sends a transmitting signal from an adder circuit 12 to the telephone line 2a by way of the NCU 2. In addition, it receives a signal from the other end by way of the NCU 2, and sends it to a demodulation unit 8 by way of a signal line 6a.

[0015]

10 The modulation/demodulation unit 8 is a modulation/demodulation unit for performing modulation and demodulation based on the ITU-T recommendation V. 8, V. 21, V. 27 ter, V. 29, V. 17 and V. 34, and each transmission mode is specified by control of a bus 26.

15 The modulation/demodulation unit 8 inputs the transmitting signal from the bus 26, and outputs modulation data to the signal line 8a. In addition, it inputs a receiving signal outputted to the signal line 6a, and outputs demodulation data to the bus 26.

20 [0016]

A caller circuit 10 inputs telephone number information according to the signal from the bus 26, and outputs a selection signal of DTMF to a signal line 10a.

[0017]

25 An adder circuit 12 inputs information of the signal line 8a and the signal line 10a, and outputs added results to a signal line 12a.

[0018]

A read circuit 14 outputs read data to the bus 26.

[0019]

A record circuit 16 sequentially records the  
5 information outputted to the bus 26 line by line.

[0020]

A memory 18 is used to store the memory (RAM) for  
work and in addition, raw information of the read data  
or encoded information and also to store received  
10 information or decoded information via the bus 26.

[0021]

Fig. 2 is a diagram showing examples of "Received  
e-mail address", "Forwarding destination" and "Object  
to be forwarded" registered in correspondence to memory  
15 box numbers in this embodiment.

[0022]

The memory 18 has the memory for storing the received  
e-mail addresses, forwarding destinations and objects  
to be forwarded in correspondence to memory box numbers,  
20 which are registered via the bus 26 as shown in Fig. 2  
for instance.

[0023]

An operation unit 20 has a one touch dial, a compact  
dial, a ten key, a \* key, a # key, a start key, a stop  
25 key, a set key, an e-mail transmission selection key,  
a key for registration with the memory 18 and other function  
keys, and any pressed key information is outputted to

the bus 26. The operation unit 20 has a display unit for inputting and displaying the information outputted to the bus 26.

[0024]

5           A CPU (Central Processing Unit) 22 controls the entire facsimile apparatus FS 1 and performs a facsimile transmission control procedure, and its control program is stored in a ROM 24.

[0025]

10           A service provider 28 is connected to a PSTN 30 via a signal line 28a, and to the Internet 32 via a signal line 28b.

[0026]

            The control program stored in the ROM 24 is the control  
15   program wherein, in the facsimile apparatus capable of facsimile communication via the Internet, means for registering received e-mail addresses and the process to be executed next is implemented in correspondence to a memory box, and as the process to be executed next,  
20   the object to be sent of the received information is changed according to conditions when setting forwarding to a specific destination.

[0027]

            In addition, the above control program is the program  
25   capable of selecting, as the transmission of the received information to the next destination, one of transmitting only the text, transmitting only the attachment file,

and transmitting the text and the attachment file.

[0028]

Here, the above control program is the program wherein means for registering a plurality of destinations as the destinations to send the received information in  
5 correspondence to the memory box is implemented, and when transmitting the received information to these plurality of destinations, the object to be sent can be changed among transmitting only the text, transmitting only the  
10 attachment file, and transmitting the text and the attachment file.

[0029]

Fig. 3 is a diagram showing examples of "Received e-mail address", "Forwarding destination" and "Object  
15 to be forwarded" registered in correspondence to memory box numbers in this embodiment, and examples of the transmission contents registered in correspondence to the contents of the transmission terminal.

[0030]

20 Figs. 4, 5 and 6 are the flowcharts showing the operation of this embodiment.

[0031]

The memory 18 is initialized via the bus 26 in a step S2, the display unit of the operation unit is cleared  
25 via the bus in a step S4, and the CML of the NCU 2 is turned off via the bus in a step S6.

[0032]

It is determined whether or not the registration with the memory box is selected via the bus 26 in a step S8, and it proceeds to a step S10 if the registration is selected, and it registers via the bus 26 the received e-mail addresses, forwarding destinations and objects to be forwarded in correspondence to memory box numbers with the memory 18 as shown in Fig. 2 for instance, and it proceeds to a step S12 if the registration is not selected.  
[0033]

10        It is determined whether or not facsimile reception is started in the step S12, and it proceeds to a step S16 if the facsimile reception is started, and it proceeds to a step S14 to execute other processes if the facsimile reception is not started.

15        [0034]

It determines a received signal in a step S18, and it proceeds to a step S20 if a protocol signal of the facsimile is detected, and it proceeds to a step S26 if a PPP (Point to Point) protocol signal is detected.

20        [0035]

It performs a pre-procedure in the step S20, it receives and records an image signal in a step S22, and it performs a post-procedure in a step S24. It performs the PPP protocol in a step S26, and it receives and prints the text and the attachment file based on the ITU-T recommendation T. 37 in a step S28, and it turns off the CML of the NCU 2 via the bus 26 in a step S30.

[0036]

It determines whether or not the received e-mail address is registered with the applicable memory shown in Fig. 2 in a step S32, and it proceeds to the step S36  
5 if the received e-mail address is registered in the corresponding memory shown in Fig. 2, and it proceeds to a step S34 to erase memory-received information from the memory if the received e-mail address is not registered in the corresponding memory shown in Fig. 2.

10 [0037]

It waits for 30 seconds in a step S36, and it turns on the CML of the NCU 2 via the bus 26 in a step S38, and it uses the caller circuit to call the service provider via the bus 26 in a step S40 and performs the PPP protocol  
15 and posts the e-mail address for transmission in a step S42.

[0038]

As in Fig. 2, it sends to the destination registered in correspondence to the received e-mail address the object  
20 (the text, the text and the attachment file, the attachment file) registered in correspondence to the destination based on the ITU-T recommendation T. 37 in a step S44.

[0039]

It is determined whether or not there is a destination yet to be forwarded to in the step S46, and it proceeds  
25 to the step S48 if there is one, and it proceeds to the step S6 if there is none.

[0040]

In the step S48, it turns off the CML of the NCU  
2 via the bus 26.

[0041]

5 [Second Embodiment]

A second embodiment is the embodiment wherein, in  
the first embodiment, it has means for setting whether  
or not the destination is a mobile terminal, and according  
to this information, the object to be sent can be changed  
10 among only the text, only the attachment file, and the  
text and the attachment file when transmitting the received  
information.

[0042]

Here, it has means for registering only the text,  
15 only the attachment file, or the text and the attachment  
file as the information to be sent in correspondence to  
whether or not the destination is mobile, and it determines  
whether only the text, only the attachment file, or the  
text and the attachment file should be the object to be  
20 sent to the next destination based on this registered  
information.

[0043]

In the second embodiment, the following information  
is registered in the memory 18.

25 [0044]

In the memory 18, there is the memory for storing  
the received e-mail address, the forwarding destination

and a sender terminal in correspondence to the memory box number, which are registered via the bus 26 as shown in Fig. 3(1) for instance.

[0045]

5           In the memory 18, there is the memory for registering in the concrete only the text, only the attachment file, or the text and the attachment file as the object to be sent in correspondence to the sender terminal (whether a mobile terminal or not), which is registered via the  
10 bus 26 as shown in Fig. 3(2) for instance.

[0046]

Next, operation of the second embodiment will be described.

[0047]

15           Figs. 7 and 8 are the flowcharts showing the operation of the second embodiment of the present invention.

[0048]

Figs. 7 and 8 show portions wherein the second embodiment is different from the flowcharts showing the  
20 operation of the first embodiment.

[0049]

A step S50 represents YES of the step S8, and the received e-mail address, the forwarding destination and the sender terminal in correspondence to the memory box  
25 number are registered in the memory 18 via the bus 26 as shown in Fig. 3(1) for instance in a step S52.

[0050]



In a step S54, it is determined whether or not registration of the object to be sent in correspondence to the sender terminal is selected, and if the registration of the object is selected, it proceeds to a step S56 to  
5 register the object via the bus 26 as shown in Fig. 3(2) for instance. And if the object to be sent in correspondence to the sender terminal is not selected, it proceeds to a step S58 (step S12).

[0051]

10 A step S60 represents the step S30, and it is determined whether or not the received e-mail address is registered in the applicable memory in Fig. 3(1) in a step S62, and it proceeds to a step S66 (step S36) if registered, and it proceeds to a step S64 (step S34) to erase memory-received  
15 information from the memory if not registered.

[0052]

A step S68 represents the step S42, and it sends to the destination of Fig. 3(1) registered in correspondence to the received e-mail address the object  
20 to be sent (the text, the text and the attachment file, the attachment file) based on the registered object shown in Fig. 3(2) from the sender terminal information registered in correspondence to the destination based on the ITU-T recommendation T. 37 in a step S70.

25 [0053]

A step S72 represents the step S46.

[0054]

According to the above embodiments, the facsimile apparatus capable of the facsimile communication via the Internet has the means for registering the received e-mail addresses and the process to be executed next in  
5 correspondence to the memory box, and as the process to be executed next, transmission of the received information can be changed according to the conditions when setting the forwarding to the specific destination.

[0055]

10 In addition, according to the above embodiments, in the case of transmitting the received information to the next destination, it possible to select one of transmitting only the text, transmitting only the attachment file, and transmitting the text and the  
15 attachment file.

[0056]

Furthermore, according to the above embodiment, it has the means for registering a plurality of destinations as the destinations to send the received information in  
20 correspondence to the memory box, and when transmitting the received information to these plurality of destinations, the object to be sent can be changed among transmitting only the text, transmitting only the attachment file, and transmitting the text and the attachment file.

25 [0057]

It becomes possible thereby, on the terminal for implementing the facsimile communication via the Internet,

to transmit only the text, only the attachment file, or  
the text and the attachment file by destination when  
facsimile-transmitting via the Internet the information  
facsimile-received via the Internet, allowing appropriate  
5 information to be sent in correspondence to the  
destinations so that it is very user-friendly.

[0058]

In addition, according to the above embodiments,  
it has the means for setting whether or not the destination  
10 is the mobile terminal, and it is possible, when sending  
the received information, to change transmission among  
only the text, only the attachment file, and the text  
and the attachment file according to whether or not it  
is the mobile information.

15 [0059]

Furthermore, according to the above embodiments,  
it has the means for registering only the text, only the  
attachment file, and the text and the attachment file  
as the information to be sent according to whether or  
20 not the destination is mobile, and is capable of, based  
on this registered information, determining the  
transmission to the next destination to be whether only  
the text, only the attachment file or the text and the  
attachment file.

25 [0060]

Thus, at the terminal which executes the facsimile  
communication through the Internet, in the case where

the information facsimile-received through the Internet  
is further facsimile-transmitted through the Internet,  
when the received information is transmitted based on  
the set information as to whether or not the transmission  
5 destination is a mobile terminal, it is possible to transmit  
only the text, only the attached file and both the text  
and the attached file with respect to each destination  
to which the transmission content can be changed, whereby  
it allows appropriate information to be sent according  
10 to whether or not the destination is the mobile terminal  
so that it is very user-friendly.

Moreover, the above embodiment can be applied to  
an image communication apparatus other than the facsimile  
apparatus, such as a personal computer having an image  
15 communication function.

[0061]

In addition, it is needless to say that the present  
invention is also applicable in the case where it is attained  
by supplying the program to a system or an apparatus with  
20 a storage medium storing a program module of software  
for implementing the above-mentioned embodiment.

[0062]

[Effect of the Invention]

According to the invention as recited in Claims 1  
25 to 3 and 7 to 9, at the terminal which executes the facsimile  
communication through the Internet, in the case where  
the information facsimile-received through the Internet

is further facsimile-transmitted through the Internet,  
it is possible to transmit only the text, only the attached  
file and both the text and the attached file with respect  
to each destination, whereby it allows appropriate  
5 information to be sent according to whether or not the  
destination is the mobile terminal so that it is very  
user-friendly.

[0063]

According to the invention as recited in Claims 4,  
10 5, 10 and 11, at the terminal which executes the facsimile  
communication through the Internet, in the case where  
the information facsimile-received through the Internet  
is further facsimile-transmitted through the Internet,  
when the received information is transmitted based on  
15 the set information, it is possible to transmit only the  
text, only the attached file and both the text and the  
attached file with respect to each destination to which  
the transmission content can be changed, whereby it allows  
appropriate information to be sent according to whether  
20 or not the destination is the mobile terminal so that  
it is very user-friendly.

#### [Brief Description of the Drawings]

Fig. 1 is a block diagram of a facsimile apparatus  
25 according to first and second embodiments;

Fig. 2 is a diagram showing examples of "Received  
e-mail address", "Forwarding destination" and "Object

to be forwarded" registered in correspondence to memory box numbers in the first embodiment;

Fig. 3(1) is a diagram showing examples of "Received e-mail address", "Forwarding destination" and "Sender terminal" registered in correspondence to memory box numbers in the second embodiment;

Fig. 3(2) is a diagram showing examples of objects to be sent registered in correspondence to the types of the sender terminals in Fig. 3(1);

10 Fig. 4 is a flowchart showing operation of the first embodiment;

Fig. 5 is a flowchart showing the operation of the first embodiment;

15 Fig. 6 is a flowchart showing the operation of the first embodiment;

Fig. 7 is a flowchart showing the operation of the second embodiment; and

Fig. 8 is a flowchart showing the operation of the second embodiment.

20

[Description of Reference Numerals of Symbols]

FS1 ... facsimile apparatus

14 ... read circuit

16 ... record circuit

25 18 ... memory circuit

22 ... CPU

24 ... ROM

28 ... service provider

[Document Title] Abstract

[Abstract]

[Problem] An object of the present invention is to provide an image communication apparatus which can, even if a  
5 communication partner is a portable terminal or the like through the Internet, suppress communication costs and by which a partner's portable terminal can receive data even when the received information is forwarded or relay broadcasted, and the control method thereof.

10 [Means for Achieving Object] In an image communication apparatus capable of executing facsimile communication through the Internet, it comprises: registration means for registering a received electronic mail address and a process to be next executed, in correspondence with  
15 a memory box; and an information change means for changing, when setting forward to a specific destination, the received information and transmitting the changed information to the specific destination as the process to be next executed, in accordance with a predetermined  
20 condition.

[Selective Drawing] Fig. 1